

NCPTT Notes

The Newsletter of the National Center for Preservation Technology and Training

Archeological Research Takes to the Skies

For more than 80 years, archeologists have used aerial images to study archeological sites, but traditional methods of acquiring these images have been limited in their uses.

This spring, NCPTT is funding a study using powered parachutes (PPC) as an alternate way to gather aerial photos of archeological sites.

The study's director, Dr. Tommy Hailey of the Northwestern State University Cultural Research Office in Natchitoches, Louisiana, will be the first to take to the air to assess the suitability of the powered parachute as an archeological aerial reconnaissance vehicle.

Current technologies such as tethered inflatable balloons

The PPC offers the potential to overcome these limitations as a cost-effective means of acquiring large-scale, high resolution aerial images, combined with unlimited geographic mobility.

and radio-controlled aircraft are limited by the length of rope tethers or the range of the radio transmitter. Satellites and high-altitude aircraft are not re-



The Powered Parachute (pictured above with Dr. Tommy Hailey) promises greater mobility at less cost in the survey of archeological sites. Hailey is testing the application of the machine with the help of a NCPTT grant.

stricted geographically, but high altitudes and forward movement of the aircraft or satellite can produce blurred images or insufficient resolution to identify many archeological features or sites. In addition, the cost of renting aircraft or hiring professional surveyors to conduct aerial reconnaissance is beyond the financial means of many projects.

The PPC offers the potential to overcome these limitations as a cost-effective means of acquiring large-scale, high-resolu-

tion aerial images, combined with unlimited geographic mobility. It is inexpensive to operate, costing only about \$5.75 per hour for fuel and oil. It can fly at altitudes from ten to 3,000 meters at speeds of 28-30 miles per hour, providing the low altitude and low velocity necessary for large-scale, high resolution images. In addition, it can operate two to three hours on one tank of fuel, affording the geographic mobility needed to survey large areas for previously

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NCPTT Notes April 2002

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NCPTT Notes is published by the National Park Service's Center for Preservation Technology and Training. The mail list for NCPTT Notes is subject to request under the Freedom of Information Act. Persons of organizations not wanting to have mail list information disclosed should unsubscribe.

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Powered Parachute:

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undiscovered sites.

During the course of the project, the stability of the PPC as a camera platform will be a major consideration. Effects of the design characteristics of the aircraft, wind, and turbulence on data acquisition will be evaluated by performing visual and computer analyses of aerial images for clarity and consistency.

Two types of archaeological aerial reconnaissance will be conducted: the investigation of known sites and the survey of a larger area for previously undiscovered sites.

Known sites to be included in the project—the eighteenth-century Spanish presidio of *Nuestra Senora del Pilar de los Adaes*, and Fort Jesup, a major nineteenth-century American frontier post—are subjects of ongoing archeological investigations, including geophysical survey and excavation. These investigators will provide a comparative database to assist in the evaluation of the results of the project.

The larger survey area, in the Cane River National Heritage Area to the south of Natchitoches, was selected primarily because, as an area largely under cultivation, it offers an ideal setting for locating archeological resources from the air. Images will be acquired with digital still photography, digital videography, and thermal imaging in order to evaluate the efficiency of the PPC in acquiring

data in a number of different formats currently in use by archeologists. Flights will be made throughout the year so that effects of changing seasonal vegetation on locating archeological sites and defining prehistoric and historic site signatures will be possible.

The potential importance of the PPC to the archeological and historic preservation communities is obvious, but the value of this project transcends archeological applications, to include almost any area of research that requires aerial reconnaissance. Foresters, geomorphologists, geographers, cultural anthropologists, geologists, and agricultural scientists have and do make use of remote sensing data, and all of these disciplines could benefit from this technology.



With the success of this project, a new research technique of great value to a wide range of disciplines and applicable in virtually any geographic setting will have been opened up to the scientific community.

It is conceivable that, in years to come, any scientist planning fieldwork will consider benefits of, and will incorporate into his or her research design, a program of aerial reconnaissance using a powered parachute. **u**

Mini Grants Help Students Explore Their Heritage

Students across Louisiana are “Building Our Historical Heritage” and “Exposing Our Roots” this spring as projects funded by the Louisiana Heritage Education Mini-Grants program get underway. The program has funded more than 20 projects designed to promote heritage education around the state.

Some, like Greg English, seventh grade teacher from Oak Park Middle School in Lake Charles, use their grants to combine hands-on and technology-based methods.

“The Louisiana Heritage Education Mini Grant has allowed my Louisiana Explorers History Club to travel to various historical and cultural sites and events” English said. “My students come from an inner-city, Title-I school and would not otherwise been able to make such educational trips.

In just five months we have visited and explored both state capitols, the LSU Rural Life Museum, Old Governor’s Mansion, Acadian Village, Bowie Museum, Acadian Prairie Culture Center, Louisiana Sports Hall of Fame, Fort St. Jean Baptiste, Old Natchitoches’ Front Street and seen the Christmas Lights. Careful planning has made all this possible - and we still have four trips to go.”

The Explorers web site is located at http://www.geocities.com/la_explorers/ and includes photos and descriptions of the



Louisiana Explorers History Club, recipient of a 2001 Heritage Education mini grant, has visited multiple sites of historic significance in Louisiana.

trips the group has gone on so far.

Other projects, like the *Louisiana Links* newsletter, initiated by Patricia Gaspard of Forked Island E. Broussard Elementary, is a student-produced publication that documents local history.

The most recent *Louisiana Links* featured stories on Louisiana wetlands, food, festivals, politics, and even the state dog. The newsletter can be found at <http://vrml.k12.la.us/fiebweb/lalinks.htm>.

Begun in the fall of 2000, the Louisiana Heritage Education Program endeavors to convey to the state’s youngest citizens the power of history and place and the stories behind our irreplaceable treasures.

As a nation, the United States is at risk of losing its historic places, and the stories behind them. Begun in the fall of 2000, the Louisiana Heritage Education Program endeavors to convey to the state’s youngest citizens the power of history

and place and the stories behind our irreplaceable treasures.

To aid this goal, the mini-grants projects use a variety of approaches to heritage education. Some are classroom-based, and though taught in the traditional way, they still use the web and other technologies to teach students about Louisiana heritage.

Dawn Williams’ fourth grade class at Estherwood Elementary will create a traveling exhibit based on research of Acadia Parish historic sites. Likewise, Terry Thibodeaux’s junior high students at Gonzales Middle School will research and create an online Louisiana resource guide.

Other classes will take a more artistic approach. Alisha Rivero, primary grade teacher at St. Ville Elementary in Harvey, Louisiana, is producing a play with her students about life in New Orleans in 1815.

“The students at St. Ville have limited exposure to the arts and historical ‘hands on’ experiences,” Rivero said. “Children that participate in this type of approach create knowledge that is life long. The learning is real! The objective is for the children to create their own dialog for the play from their learning experience.

The grant will enable the students to experience history first hand. The students will take pictures and record dialog of the characters portraying the events of history.” **u**

Dry Stone Retaining Walls

With the help of NCPTT grants, the Dry Stone Conservancy recently released two training videos focused on preserving dry stone structures, craft, and history.

The first of these, a training video entitled *How to Build Dry-Stone Retaining Walls*, (NCPTT product 2001-11) shows how to build or repair small dry stone retaining walls from beginning to end: laying out the shape, digging the foundation, setting the wall angle, building the face, packing the back, and leveling the top.

The techniques are suitable for all rock types, whether glacially rounded, angular, or flat-bedded. A series of graphic drawings illustrate the principles of retaining wall construction followed by two case studies showing on-site training classes.

One project depicted is a low, two-foot wall taught by a



"Preserving Dry Stone Walls of the Chesapeake and Ohio Canal" is one of the videos featured in the series "Retaining America's Dry Stone Heritage." The series was funded in part by a NCPTT grant. Image provided by Dry Stone conservancy.

master craftsman who discusses plans as well as problems the class members encounter and solve. The second project is a four-foot wall that supports an equestrian trail and traverses a wet-weather water course in a Louisville park. This video is designed to assist

craftsmen, engineers, architects, landscape architects, federal and state parks personnel, and private landowners responsible for the preservation of dry-stone retaining walls.

The second video, *Retaining America's Dry Stone Heritage: Preserving Dry Stone Walls in the Chesapeake and Ohio Canal*, (NCPTT product 2001-12) documents the repair of damaged canal walls in the popular C&O Canal National Historical Park.

At Harpers Ferry, the canal, highway, and railroad all share the same narrow space where the Potomac and Shenandoah Rivers cut through the Blue Ridge. After 150 years, the 1996 floodwaters, channeled forcefully through this passage, damaged the old canal walls. Downstream, at Washington, large tree roots had grown through the dry stone masonry, and heavy industrial ware-

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Faris joins NCPTT in Heritage Education Program

M. Scott Faris joined NCPTT as a Heritage Education intern for the spring semester. Faris was



Faris

born in Yakima, Washington. After graduating from high school in Tucson, Arizona, he served 20 years in the United States Army, including tours of duty in Germany and Korea.

Upon his retirement from active duty in 1998, Faris attended Northwestern State

University, graduating Magna cum Laude in History in 2000. He is currently a graduate student at NSU studying History with an emphasis in Cultural Resource Management. Faris has participated in several significant undertakings in cooperation with NSU's Cultural Resource Office, including the Fort Jesup Archaeological Project and the Louisiana Army National Guard's Camp Beauregard field survey, among others. He also assisted Dr.

Kevin McDonald of the University College of London with his summer archeological field school at Melrose Plantation in 2001.

He has presented papers on the Fort Jesup Archaeological Project at NSU's annual Research Day in 2000, during Louisiana Archaeology Week in 2001, and at the Society for Historical Archaeology's annual conference in 2002. Faris is married and has two grown children. u

Walls:

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houses built too close to the canal, damaged dry stone walls there. This video is the story of those repairs. The



Image provided by Dry Stone conservancy

footage depicts the planning and organization essential for a large-scale restoration project. It shows the use of modern equipment-replacing donkey power, pulleys, and wenchers—lifting the irregular, awkward, and extremely heavy schist and gneiss boulders back into place. There is no mortar or concrete. The venture emphasizes the Park Service's philosophy of authentic preservation and serves as a prototype for future genuine repairs.

Projects in both videos were organized and managed by the Dry Stone Conservancy. For instructions in print, the DSC handbook *Building and Repairing Dry Stone Fences and Retaining Walls* contains sectional drawings of retaining walls. u

For information or consultation, contact:
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E-Fellows strive for excellence in government

V. Rodney Harrison Jr., NCPTT's Web Development Specialist, M.Ed., Ed.S., is currently enrolled in the Council for Excellence in Government e-Fellows Leadership program.

The e-Fellows Program is offered in cooperation with the NSF (National Science Foundation) and employs an assortment of benchmarks and training modules to measure excellence in government.

Harrison is taking part in a yearlong series of learning activities designed to investigate and integrate up-and-coming technologies at NCPTT. Members of the e-Fellows group increase their individual expertise while working together on detailed results for their organizations.

The e-Fellows meet every six

The e-Fellows Program is offered in cooperation with the NSF and employs an assortment of benchmarks and training modules to measure excellence in government.



The e-Fellows group meets every six weeks to discuss technology issues related to government workers. The group hopes to aid government agencies to trade vital information more effectively.

weeks to work on projects and attend benchmarking sessions with such organizations as Microsoft, National Science Foundation, JFK Institute of Technology at Harvard, and MIT.

The technological module of the eFellows program includes expert level colloquiums, web-based training components, round-table discussions and involvement in technology-related

conventions. A few of the subject matters covered in 2001-2002 were Internet Technology, Information Assurance, e-Commerce, e-Government, Data Integration through Portals, and Internet Accessibility.

Harrison is currently working on two projects through the e-Fellows program dealing with cross platform data exchange portals throughout various agencies in cooperation with NCPTT. These projects will allow users to exchange and reproduce information from the primary website they are gathering data from, eliminating the need to manage from multiple websites.

If successful, these projects will allow the National Park Service and other agencies under the Department of Interior to use this work as a model for their agencies to trade vital information effectively. Statistical results should be available in the upcoming months. u

Preservation Professionals Respond to 9/11

By Constance Ramirez

Federal Preservation Institute

Over 200 people attended the Conference on Balancing Public Safety and Protection of Historic Places on Jan. 22 in Washington, D.C., to discuss the issues raised by 9/11 on historic buildings, landscapes, and collections. The conference was convened to coincide with the winter meeting of the U.S. Conference of Mayors.

As Mayor Bob Young of Augusta, Georgia, a member of the Advisory Council on Historic Preservation, pointed out at the luncheon, “mayors are protectors of their communities – every issue stops at City Hall.” The meeting brought together mayors and federal, state, and local officials plus architects, landscape architects, security experts, engineers, historic site managers, and professionals with historic preservation responsibilities—many of whom had never met before.

PRINCIPLES FOR DEVELOPMENT OF SECURITY MEASURES FOR HISTORIC PLACES

Prepared by Advisory Council on Historic Preservation and Federal Preservation Institute

- I. Heritage protection is in the public interest.
- II. Balancing public safety and heritage protection is an evolving field.
- III. Accurate information about heritage resources is fundamental to effective preparedness plans.
- IV. Historic resource values should be preserved in remediation actions. Consultation with others during planning and implementation is necessary and important.



Organized by the Federal Preservation Institute, a branch of the National Center for Preservation Technology and Training, the program addressed the protection of high risk historic icons, alterations to landscapes and civic spaces, protection of collections housed in historic structures, and development of partnerships among local, state, and federal disaster offices.

Fran Mainella, National Park Service Director, opened the conference and presented five guidelines to be used when developing security measures affecting historic places [see box]. Following her, the morning plenary session focused on the lessons learned from 9/11. Bernadette Castro, New York state historic preservation officer and vice chair, Advisory Council on Historic Preservation, spoke about the model partnership among her SHPO office, the Federal Emergency Management Agency, and the Advisory Council, to expedite review of recovery actions that may have an effect on historic properties.

Philip Grone, principal deputy under secretary of defense, spoke about the renovations to the Pentagon that had reduced much of the damage in

that attack and how protection at military facilities includes protection of the Department's 14,000 National Register properties.

Alan Hantman, architect of the Capitol, enumerated three initiatives: maintaining our open and free society, preventing attacks before they occur, and protecting our buildings from human loss and property damage. To protect our Capitol, he is making many new uses of technology, including laser scans of the exterior to document the building.

The Conference included four breakout sessions, each offered twice, so participants could focus on specific issues and examples. These included presentations on protection of U.S. embassies, the Golden Gate Bridge, the 19th century Tweed Courthouse in NYC, the White House and Mall in Washington, DC, and museum collections. Speakers included staff from the Federal Communications Commission talking about the importance of wireless communication, a chief of police, an expert on electronic surveillance, and a representative of small businesses on helping businesses recover quickly and reopen after a disaster.

Joseph Moravec, Commissioner of the Public Buildings Service, General Services Administration, was the luncheon speaker. He stressed that “our goal is to add features that increase the security of federal workplaces without creating an

'Conserve O Grams' Spread the Word on Preservation Issues

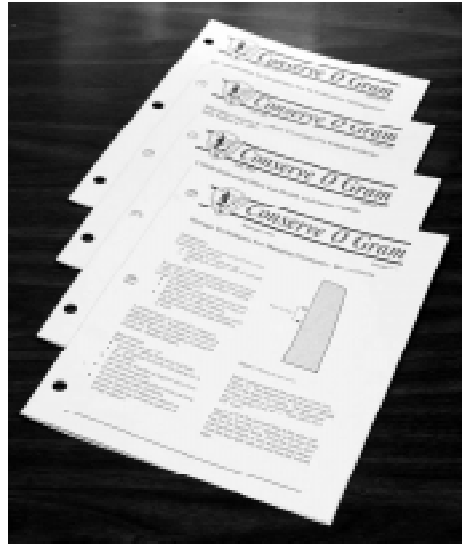
By Maria Galban

Museum Management Program

In 1975, the Curatorial Division (now the Museum Management Program) of the National Park Service began to publish a technical series entitled *Conserve O Gram*. *Conserve O Grams* are four-page leaflets that provide up-to-date information on curatorial practices and museum techniques. The series addresses issues that museums and historic sites face when caring for collections.

The main focus of the series is preserving collections and preventing object deterioration. It outlines factors that cause deterioration and techniques used to prevent it. The series is useful for individuals who care for collections of fine art, furniture, books, photographs, textiles or other memorabilia. They are helpful both for highly trained museum professionals and for those with little or no museum experience.

Conserve O Grams provide care instruction for particular



types of objects and offer guidance on such issues as collections storage, exhibition, pest control and curatorial safety.

Each *Conserve O Gram* deals with a specific topic. Some of the titles include: Cleaning Wood Furniture; Storage Techniques for Hanging Garments; Leather Dressing: To Dress or Not to Dress; Caring for Silver and Copper Objects; and What Makes a Book Rare? Recent publications address disaster preparedness and recovery.

The *Conserve O Gram* series can assist individuals in learn-

ing how to prevent object deterioration and determining when objects need the professional attention of a conservator. They also provide bibliographic references and web resources for further information.

Since its inception, the publication has reflected changes in the technology of preservation. Old leaflets have been retired or revised as new technologies and practices emerged. In 1993 the series received a new look when the old bright yellow publication was replaced with an updated design. In addition, the series is now easily downloaded from the Museum Management Program Internet website.

Conserve O Grams are published in supplements twice yearly with each supplement containing five or six leaflets and an updated Table of Contents. You can find all of the current *Conserve O Grams* on the Internet at <<http://www.cr.nps.gov/museum/publications/conserveogram/>> **u**

Maria Galban is a graduate student at George Washington University and an intern with the Museum Management Program of the National Park Service.

Preservation Institute ...

oppressive climate of fear or destroying timeless aesthetics." He illustrated this with examples of landscaping and street design that enhance the buildings while increasing protection.

The conference concluded with an afternoon session on risk analysis, the projects in sev-

eral cities, and the role of the judiciary in sentencing persons found guilty of damaging cultural property. At the end of the day, John Stubbs, vice president, World Monuments Fund, put the talks into the perspective of world history by showing us that willful acts by man to cultural properties have been by far the most destructive force.

But, as he asked, "could it be that the next cycle in American preservation has been defined by the challenges posed to the country after September 11?"

The staff of the Federal Preservation Institute is preparing a summary of the conference. If you are interested in obtaining a copy of the summary, please contact the staff for information about future conferences, please send an email to NPS.FPI@nps.gov.



John Stubbs, Vice President of the World Monuments Fund, is the director of the Federal Preservation Institute: (202) 343-9569. He is the primary contact for information about future conferences.

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United States Department of the Interior

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to tribes.

National Park Service

The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education and inspiration of this and future generations. The Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

NCPTT

NCPTT promotes and enhances the preservation and conservation of prehistoric and historic resources in the United States for present and future generations through the advancement and dissemination of preservation technology and training.

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